

Claims

1    1.    A method of facilitating a search by a user for a product from among a plurality of products,  
2    the products being defined by a set of measurable attributes, each product having a value for each  
3    attribute, the method comprising the steps of:

- 4              a. facilitating user selection of one or more products;  
5              b. combining the attribute values of the selected one or more products to produce a set of  
6    progeny attribute values;  
7              c. selecting, from among the plurality of products, at least one candidate product based on  
8    the progeny attribute values; and  
9              d. presenting the at least one candidate product to the user.

10         2.    The method of claim 1 wherein steps (a)-(d) are repeated until a final optimal product is  
11    selected.

12         3.    The method of claim 1, further comprising, before step (a), the steps of:  
13              (i) selecting an initial subset of the plurality of products; and  
14              (ii) presenting the initial subset to the user.

15         4.    The method of claim 3 wherein the selecting step (i) comprises selecting randomly an initial  
16    subset of the plurality of products.

17         5.    The method of claim 3 wherein the selecting step (i) comprises using a predetermined initial  
18    subset that is a well distributed sample of the plurality of products.

19         6.    The method of claim 1 wherein step (a) comprises facilitating user selection of at least one  
20    desired products and at least one product that is not desired.

21         7.    The method of claim 6 wherein the selecting step (c) comprises selecting products having  
22    attributes similar to the at least one desired product and unlike the at least one product that is not  
23    desired.

24         8.    The method of claim 1 further comprising, before step (b), the steps of:  
25              (i).    displaying the attribute values of at least one product; and  
26              (ii).    allowing the user to modify the displayed attributes values.

1    9.    The method of claim 8 wherein step (b) comprises combining the attribute values of the  
2    selected products and the modified displayed attribute to produce a set of progeny attribute values.

1    10.   The method of claim 1 wherein step (a) comprises facilitating user selection of one or more  
2    products from a random subset of the plurality of products.

1    11.   The method of claim 1, wherein step (c) further comprises selecting at least one candidate  
2    product based on proximity of candidate product attribute values to progeny attribute values.

1    12.   The method of claim 1, further comprising the step of identifying the attributes that are  
2    important to a user by observing at least one user selection;

3                 and wherein step (c) comprises selecting at least one candidate product based on the  
4    progeny attribute values and the attributes that are important to the user.

1    13.   The method of claim 12, wherein the at least one user selection comprises at least one  
2    current selection and at least one past selection.

1    14.   The method of claim 1, wherein the combining step (b) comprises using a random  
2    probability function.

1    15.   The method of claim 1, wherein the combining step (b) comprises, for each measurable  
2    attribute:

3                 choosing one of the selected products;

4                 taking the attribute value of the chosen one of the selected products as the progeny attribute  
5    value for that measurable attribute.

1    16.   The method of claim 1, wherein the combining step (b) comprises choosing one of the  
2    selected products and, for a subset of the measurable attributes:

3                 taking the attribute value of the chosen one of the selected products as the progeny attribute  
4    value for that measurable attribute.

1    17.   The method of claim 16 wherein the subset of the measurable attributes comprises all of the  
2    measurable attributes.

1    18.   The method of claim 16 wherein the choosing step comprises randomly choosing one of the  
2    selected products.

1    19.    The method of claim 1, wherein the combining step (b) comprises, for each measurable  
2    attribute:

3                 associating a fraction value with each of the selected products such that the fraction values  
4    total 1;

5                 multiplying the attribute value of each of the selected products by the fraction value  
6    associated with that product; and

7                 taking the sum of the results of the multiplying step as the progeny attribute value for that  
8    measurable attribute.

1    20.    The method of claim 1, wherein the combining step (b) comprises associating a fraction  
2    value with each of the selected products such that the fraction values total 1, and, for each of a  
3    subset of measurable attributes:

4                 multiplying the attribute value of each of the selected products by the fraction value  
5    associated with that product; and

6                 taking the sum of the results of the multiplying step as the progeny attribute value for that  
7    measurable attribute.

1    21.    The method of claim 20 wherein the subset of measurable attributes comprises all of the  
2    measurable attributes.

1    22.    The method of claim 20 wherein the associating step comprises associating at least one  
2    random fraction value with one of the selected products.

1    23.    The method of claim 1 wherein:

2                 the facilitating step (a) is performed by a server computer in communication with a client  
3    computer over a computer network, the user interacting with the client computer to select the  
4    products; and

5                 step (d) comprises presenting the at least one candidate product to the user by transmitting  
6    information describing the at least one candidate product from the server computer over the  
7    computer network to the client computer for presentation thereon.

1    24.    The method of claim 23 wherein the server computer comprises a web server, the client  
2    computer comprises a web browser, and the computer network comprises the Internet.

1    25.    The method of claim 1 wherein the facilitating step (a) and the presenting step (d) is  
2    performed by a single computer.

1    26.    The method of claim 25 wherein the single computer is a kiosk in a retail location.

1    27.    A system for facilitating a search for a product from among a plurality of products, the  
2    products being defined by a set of measurable attributes, each product having a value for each  
3    attribute, the system comprising:

4              a. a user interface for facilitating user selection of at least one products;

5              b. a combination subsystem for combining the attribute values of the selected at least one  
6    products to produce a set of progeny attribute values;

7              c. a selection subsystem for selecting, from among the plurality of products, at least one  
8    candidate product based on the progeny attribute values; and

9              d. a result output for communicating the at least one candidate product to the user.

10         28.    The system of claim 27 wherein the system iterates operation of the user interface,  
11    combination subsystem, selection subsystem and the result output until a final optimal product is  
12    selected.

13         29.    The system of claim 27 wherein the user interface is for facilitating user selection of at least  
14    one desired product and at least one product that is not desired.

15         30.    The system of claim 27 wherein the user interface is also for displaying the attribute values  
16    of at least one product; and allowing the user to modify the displayed attributes values.

17         31.    The system of claim 30 wherein the combination subsystem is for combining the attribute  
18    values of the selected products and the modified displayed attribute to produce a set of progeny  
19    attribute values.

20         32.    The system of claim 27 wherein the user interface is for facilitating user selection of at least  
21    one product from a random subset of the plurality of products.

22         33.    The system of claim 27, wherein the selection subsystem is for selecting at least one  
23    candidate product based on proximity of candidate product attribute values to progeny attribute  
24    values.

1    34.    The system of claim 27, further comprising an observation subsystem for identifying the  
2    attributes that are important to a user by observing user selection and wherein the selection  
3    subsystem selects at least one candidate product based on the progeny attribute values and the  
4    attributes that are important to the user.

1    35.    The system of claim 27, wherein the combination subsystem comprises a random probability  
2    function.

1    36.    The system of claim 27, wherein the combination subsystem comprises, for each measurable  
2    attribute:

3                 choosing one of the selected products;

4                 taking the attribute value of the chosen one of the selected products as the progeny attribute  
5    value for that measurable attribute.

6    37.    The system of claim 27, wherein the combination subsystem chooses one of the selected  
7    products and, for a subset of the measurable attributes takes the attribute value of the chosen one of  
8    the selected products as the progeny attribute value for that measurable attribute.

9    38.    The system of claim 37 wherein the subset of the measurable attributes comprises all of the  
10   measurable attributes.

11   39.    The system of claim 37 wherein the selection subsystem randomly chooses one of the  
12   selected products.

13   40.    The system of claim 27, wherein the combination subsystem, for each measurable attribute,  
14   associates a fraction value with each of the selected products such that the fraction values total 1,  
15   multiplies the attribute value of each of the selected products by the fraction value associated with  
16   that product, and takes the sum of the results of the multiplying step as the progeny attribute value  
17   for that measurable attribute.

18   41.    The system of claim 27, wherein the combination subsystem associates a fraction value with  
19   each of the selected products such that the fraction values total 1; and, for each of a subset of  
20   measurable attributes, multiplies the attribute value of each of the selected products by the fraction  
21   value associated with that product, and takes the sum of the results of the multiplying step as the  
22   progeny attribute value for that measurable attribute.

1    42.    The system of claim 41 wherein the subset of measurable attributes comprises all of the  
2    measurable attributes.

1    43.    The system of claim 41 wherein the combination subsystem associates at least one random  
2    fraction value with one of the selected products.

1    44.    The system of claim 27 wherein the system is implemented in a server computer configured  
2    for communication over a computer network with a client computer, the user interface and result  
3    output being implemented as display instructions originating with the server but communicated to  
4    and displayable on the client computer.

1    45.    The system of claim 44 wherein the server computer comprises a web server for generating  
2    the display instructions, the instructions being communicated to the client computer via the Internet  
3    and displayable on a web browser running on the client computer.

1    46.    The system of claim 27 wherein the system is implemented as a single computer comprising  
2    the user interface, combination subsystem, selection subsystem and the result output.

1    47.    The system of claim 46 wherein the single computer comprises a kiosk in a retail location.